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THE PLANT DISEASE REPORTER

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BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

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THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume X October 1, 1926 Number 8

REPORT ON ALFALFA DISEASES IN KANSAS

J. L. Weimer, of the Bureau of Plant Industry, who is working on alfalfa diseases at Manhattan, Kansas, has just sent in the following report of alfalfa diseases in Kansas, dated September 15.

Anthracnose (Colletotrichum trifolii). Present in some fields in eastern Kansas. Only now and then a stem killed although many stems may have minor lesions.

Rust (Uromyces medicaginis). Very prevalent in some fields since the heavy rains in September causing some defoliation.

Leaf blotch (Pyrenopeziza medicaginis). Very prevalent in some fields early in the season, causing a loss of 25 to 50 per cent of the leaves in these fields.

Leafspot (Pseudopeziza medicaginis). Quite prevalent in some fields early in the season causing a loss of 5 to 10 per cent of the leaves.

Leafspot (Cercospora medicaginis). Occurs very commonly in Kansas during the latter half of the growing season. Causes from a trace to .5 per cent defoliation in some fields.

Wilt (Aplanobacter insidiosum). Very common especially in eastern Kansas although it occurs in western Kansas also. Shows in the field most conspicuously early in the season. Some fields practically 100 per cent infected.

Leafspot (Ascochyta imperfecta). Present but causes little loss.

Bacterial blight (Bacterium medicaginis). Generally prevalent before the first cutting.

Leafspot (Pleosphaerulina briosiana). Present but not destructive.

Corticium vagum. Some instances seen in southeastern Kansas where the base of nearly every plant was white for a distance of an inch or more above the surface of the ground due to the presence of the perfect stage of this fungus. Only slight injury was seen occasionally. Small stem cankers were sometimes present.

BACTERIAL SPOT OF PEACH CAUSES DAMAGE

Alabama: Causes heavy defoliation in some orchards; worse on poorer soils and in poorly cared for orchards. Loss 1 per cent. (Miles, Sept. 12)

Ohio: This disease is quite prevalent in some sections of our peach district. (Young, Sept. 1)

Illinois: Worst it has ever been in this state. In some orchards Hale and Elberta were 80 per cent infected by actual count. Defoliation not as bad as usual due to general practice of nitrating trees. Unusually dry weather during spring and early summer in southern Illinois did not seem to reduce amount of spot. It would seem from observations that the bacteria are carried in dust. Worse on southwest side of tree this season. In previous seasons always worse on the northwest side of tree. (Anderson, Sept. 1)

CRACKING OF PEACHES TROUBLESOME IN ILLINOIS

"Losses from cracked peaches was extensive due to wet weather following an extremely dry spring and summer in the southern end of the state. Losses ranged from 2 to 25 per cent. Additional loss in market due to rotting (Rhizopus)." (Anderson, Sept. 1)

PEACH SCAB (CLADOSPORIUM CARPOPHILUM THUEM.)

Connecticut: Only moderate amount so far reported. (Clinton, Sept. 1)

Alabama: Prevalence about average; more than last year. Not important in well sprayed orchards. Loss 2 per cent. (Miles, Sept. 12)

Ohio: Scab is very abundant on unsprayed trees and even where a schedule has been used some scab shows, but not in commercial amounts. (Young, Sept. 1)

Missouri: General through state and fairly common on leaves. (Archer, Aug. 24)

NOTES ON BROWNROT OF PEACH (SCLEROTINIA FRUCTICOLA (WINT.) REHM)

Connecticut: Some rot reported on early varieties but probably will become worse on account of recent rains. (Clinton, Sept. 1)

Alabama: Loss about average; more than last year; 8 per cent. Some unsprayed orchards 100 per cent loss. (Miles, Sept. 12)

Ohio: This disease is causing at least 50 per cent loss in unsprayed orchards. The weather during late August and early September has been very favorable. Spraying is holding it in check. (Young, Sept. 1)

Illinois: Not present in most of the well sprayed orchards. Dry weather and absence of curculio kept down infestation. Extreme wet weather near harvest time resulting in serious cracking causedconsiderable brownrot in orchards not properly sprayed. (Anderson, Sept. 1)

A WART DISEASE OF PEACH REPORTED FROM ILLINOIS

"In several orchards in south central Illinois from 5 to 10 per cent of the peaches showed warty outgrowths. These were sometimes sharp pointed but frequently "cauliflowered" at apex. The disease was present to a serious extent in only a few orchards, but some could be found in most orchards. That it was not due to leaf curl was proved by the fact that it was not generally found in the worst peach curl orchards and when prevalent leaf curl was not present this year. No insects could be found associated with the disease. Sections showed no evidence of fungi. The wart persisted until harvest." (Anderson, Sept. 1)

OCCURRENCE OF GYMNOSPORANGIUM NELSONI ARTH. ON PEAR NOTED IN NORTHERN ARIZONA

"This is the first year that I have observed this disease in Arizona. One tree only near Cherry, Arizona, in Yavapai County showed 100 per cent infection of the fruit. All the pears on the tree were rendered unmarketable. The grower stated that the pears grown on this tree had not been in this condition other years." (Brisley, Sept. 11)

BACTERIAL BLIGHT OF BEANS

Ohio: Very serious on snap beans this year in all sections of the state. (Thomas, Aug. 15)

Wisconsin: Considerable in most dry bean fields. Damage less than in snap beans. (Vaughan, Sept. 15)

Leading symptoms on string beans is breaking of stems at lower nodes. Also water soaked spots on leaves and pods. Have one case of bad blight on improved Kidney wax on field that raised blighted Wardwell wax last year. Part of same field, same seed but where no beans last year shows no blight this year. (Vaughan, Sept. 1)

Arizona: Present in all fields where the vines are old enough to flower. In many instances early plantings were severely diseased and the vines died weeks ahead of maturity. Infection was also found to be severe in Cochise County in the extreme southeastern corner of the state. (Brisley, Sept. 11)

California: A trace. (Harter)

BEAN ANTHRACNOSE PREVALENT IN OHIO

"Anthracnose of snap beans has been very prevalent this season, especially the latter part. Many small gardeners have experienced severe epidemics where it has not occurred before." (Young, Aug. 15)

CURLY TOP DESTRUCTIVE TO GARDEN BEETS IN WASHINGTON

"Curly top has apparently been responsible for widespread failure of garden beets in eastern Washington. Abundance of leaf hoppers and favorable season has probably been the major factor in the epidemic nature of the disease. Mangels seem also to be nearly as severely affected as garden beets. (Dept. Pl. Path., Sept. 15)

BACTERIAL LEAFSPOT OF WINTER SQUASH AND RELATED CROPS FOUND IN MARYLAND FOR THE FIRST TIME

Miss Mary K. Bryan and Dr. C. E. Temple collected the bacterial leafspot of squash on the leaves of winter squash, pumpkin, and cymbling in the vicinity of Hyattsville, Maryland, September 15. Recent rains have apparently been favorable for dissemination of the organism with the result that many plantings show considerable leafspotting. This disease was originally reported

and the organism described by Miss Bryan in Science (63: 165. Feb. 5, 1926) from material collected in New York state. Maryland is the second state from which the disease has been reported to the Survey. Collaborators are asked to be on the lookout for leafspotting of these crops and to send specimens of suspected cases together with notes to Miss Mary K. Bryan, Bureau of Plant Industry, or to the Plant Disease Survey.

RECENT INFORMATION CONCERNING POWDERY MILDEW OF CANTALOUPE IN NORTHERN ARIZONA

"I have found mildew in practically all fields of cantaloupes for the past two weeks, but as long as the weather stayed dry there was little spread. A few days of rainy weather spread it to a marked degree so that at present in the majority of fields at least 50 per cent of the leaves show decided infection. Just at the time that the disease was becoming severe a very disastrous hail storm visited the main cantaloupe growing section and so leveled the vines that the amount of injury from mildew could not be appreciated. (Brisley, Sept. 11)

REPORTS ON DOWNY MILDEW OF CANTALOUPE (PSEUDOPERONOSPORA CUBENSIS BERK. & CURT.)

Connecticut: Have seen one case of downy mildew blight but too little yet to cause any serious injury. (Clinton, Sept. 1)

Alabama: Most severe in counties near the coast. Loss there sometimes high. Not general in interior. Loss 1 per cent. (Miles, Sept. 13)

Texas: The powdery and downy mildew of cantaloupes were exceedingly bad this year in the lower Rio Grande Valley. In fact it has wiped out the entire crop there and not a single car was shipped. The discouraging part about it is that we have as yet no fungicide that we could use that does not burn the foliage. (Taubenhaus, Sept. 1)

Downy mildew together with powdery mildew has wiped out practically the entire crop; 90 per cent loss. (Taubenhaus, Aug. 1)

BLIGHT OF COTTON (ASCOCHYTA GOSSYPII SYD.)

A specimen of cotton plants affected with Ascochyta gossypii Syd. has recently been received from Dr. W. L. Blain of the Agricultural Station at Alabama. The material was collected by Dr. L. E. Miles at Deatsville, Alabama, in August. This is the third collection from Alabama, the others being in 1925 and 1924, respectively.

NOTES ON COTTON ROOTROT (OZONIUM OMNIVORUM SHEAR)

Texas: Rootrot has never been so widespread and destructive, and there is much dead cotton without a vestige of fruit. The final outturn depends to a large extent on conditions during September. (Crop Rpt. Bd., Sept. 8)

Arizona: The first rootrot of cotton, due to Ozonium omnivorum, to be reported for the 1926 season was found south of the Salt River near Phoenix, by the County Agricultural Agent, Mr. Harry Stewart. According to Mr. Stewart the damage in this particular field promises to be especially severe. The same disease has appeared for some time in the alfalfa fields of the Salt River Valley, it usually making an earlier appearance in alfalfa than in cotton. (Ariz. News Letter, July 31)

SORESHIN OF COTTON FROM MEXICO

A specimen of cotton affected with soreshin was received May 1 in the Office of Vegetable and Forage Diseases from San Pedro, Coahuila, Mexico. The disease was identified by W. W. Gilbert and the record of occurrence communicated to the Plant Disease Survey by him.

COTTON DISEASES IN MISSISSIPPI

Collaborators Neal and Wedgworth of the Mississippi Agricultural Experiment Station have communicated the following interesting information concerning cotton diseases as of September 1.

Anthracnose (Glomerella gossypii). Rather prevalent this season owing to unusual rainfall prevailing throughout the summer. Date first report August 10, Quitman, Clark County.

Wilt (Fusarium vasinfectum). Date first reported, June 29, from Hinds, Lee, and Noxubee Counties. Wilt has been unusually prevalent this season, being reported from various counties throughout the state and on practically all soil types including Delta, the prairie of lime land region and the hill and sandy loam or coastal plain sections of the state. Although the disease has been widespread as usual, the damage does not seem to have been as severe as during the very dry years of 1924 and 1925. Short staple or upland cottons in this state which are resistant include strains of Cook, Covington Toole and Miller. Resistant staple varieties include Watson's Long Staple, Coker's Lightning Express, and Salsbury. Although there is some field evidence showing that fertilizers containing a high potash content are helpful in combating wilt, greenhouse experiments at this station have not as yet borne out such field observations. The loss from cotton wilt over the state as a whole is probably as high as 5 per cent.

Angular leafspot (Bacterium malvacearum). This disease has been prevalent throughout the state this season owing to the unusually heavy rainfall during June and July and has undoubtedly caused considerable defoliation. As a rule, this disease is not serious unless weather conditions are very favorable.

Alternaria leaf blight (Alternaria gossypii). Leaf blight has been reported from a number of localities in the state, but on the whole the disease has not been as serious as last year.

Soreshin (Corticium vagum). Observed in June at South Mississippi Station, Poplarville. Damage slight.

Phoma blight (Phoma sp.) A Phoma blight of cotton was observed and reported in July from Bolivar, Lauderdale and Lowndes Counties. This trouble appeared to be associated in some way with heavy rainfall or perhaps lightning injury, resembling in many ways the lesions produced by Ascochyta blight. A species of Phoma was always associated with the lesions on the stems and petioles. The damage in each case was confined to a small area in each field.

NOTES ON THE OCCURRENCE OF ONION SMUT (UROCYSTIS CEPULAE C. C. FROST)

Canada (Manitoba): None reported in 1926. Occasionally found previously, but the fungus does not thrive here. (Bisby, Aug. 12)

Connecticut: Only one report. No reports of other troubles yet on onions. (Clinton, Sept. 15)

Ohio: Onion smut is gradually on the increase where the formaldehyde treatment is not used. Even with treatment, about 5 per cent of smut has resulted. (Young, Sept. 15)

ONION BULB ROT CAUSED BY FUSARIUM SP. DESTRUCTIVE IN THE WALLA WALLA SECTION OF WASHINGTON

"Detailed information is lacking but this disease has been important in early onions grown in the Walla Walla section. The occurrence of the disease in this section has been reported in previous seasons." (Dept. Pl. Path., Sept. 15)

"On a visit to Walla Walla County I found that the onion rootrot (Fusarium sp.) was attacking about one-half of the crop, and was causing a considerable loss to the onion growers of that region." (Zundel, Aug. 25)

PINK ROOT OF ONION (FUSARIUM MALLI TAUB.)

H. C. Young, of Ohio, reports on September 15 that pink root of onion has been quite prevalent this year and states that in a number of fields where rotation is not practiced a distinct loss will result.

NECK-ROT OF ONION (BOTRYTIS ALLII MUNN)

Under date of September 15, R. E. Vaughan of Wisconsin reports more onion neck-rot than for several years. The development started about August 25 in the Racine-Kenosha district.

ONION MILDEW (PERONOSPORA SCHLEIDENI UNG.)

Only two reports of onion mildew have been received. In Ohio, H. C. Young says that a very few cases have been reported and in Wisconsin R. E. Vaughan states that it has been found in one field in Milwaukee County.

SWEET POTATO DISEASES IN CALIFORNIA, WASHINGTON, AND COLORADO

On a recent trip to the Pacific Coast L. L. Harter observed sweet potato diseases in several states. The following report was received from him on September 14. The diseases that he reports from Washington and Colorado are the first reports to the Survey, with the exception of stemrot. This disease was reported from Washington in 1924.

California: Stemrot. (Fusarium batatatis and Fusarium hyperoxysporum) 3 per cent. Blackrot (Ceratostomella fimbriata) 2 per cent. In portions of the San Joaquin valley considerable damage was caused to the sweet potato vines during the months of July and August. The leaves were badly scorched in some fields and 1 to 2 feet of the vines exposed to the direct rays of the sun were killed.

Washington: Stemrot 1 per cent, blackrot 1 per cent. Rootlet rot (Pythium sp.) 5 per cent. Several hundred acres of sweet potatoes have been grown in the state of Washington during the last few years. The seed potatoes were imported from some of the older sweet potato growing states with the result that the various diseases of the crop have been introduced.

Colorado: Acreage small. Stemrot (Fusarium batatatis and F. hyperoxysporum) a trace.

STEMROT OF SWEET POTATO AS REPORTED FROM ALABAMA AND ARKANSAS

"Important and widely distributed. Loss for state 4 per cent." (Miles, Sept. 13)

"Very common this year. Fifty per cent counted in one field which had not been in sweet potatoes previously. Undoubtedly brought in on diseased slips." (Rosen, Aug. 15)

REPORTS ON TOBACCO DISEASES FROM CONNECTICUT

G. P. Clinton and P. J. Anderson report on tobacco diseases from Connecticut under date of September 1 as follows:

Wildfire (Bacterium tabacum). Little seen in seed beds and not much in field until recently when a small amount was seen in quite a few fields and serious damage in several.

Black rootrot (Thielavia basicola). On whole seems to be less this season than usual though several fields injured more or less were seen.

Mosaic (cause unknown). At least average amount of mosaic and rust that follows.

FUSARIUM WILT OF TOMATO (FUSARIUM LYCOPERSICI SACC.)

Maryland: Losses from this disease are gradually decreasing, due to the increasing use of resistant varieties. (Norton & Jehle, Sept. 15)

South Carolina: About 1 per cent loss in the college variety test plots. (Ludwig, Sept. 15)

Alabama: Very general in home gardens. Loss for state not less than 10 per cent. Wilt resistant varieties standing up well. Some truckers claim that their trade objects to wilt resistant varieties because they are not the type which they have been accustomed to buying. (Miles, Sept. 1)

Arkansas: Twenty to thirty per cent count made in 3 fields around Fayetteville on non-wilt resistant varieties. (Rosen, Sept. 15)

Ohio: Fusarium wilt is not as severe this year as is general. (Young, Sept. 15)

TOMATO MOSAIC CAUSING DAMAGE

Connecticut: Saw several fields with considerable mosaic but no great damage evident. (Clinton, Sept. 15)

New Jersey: Mosaic is abundant in all parts of the state on both early and late varieties. (Dept. Pl. Path., Sept. 5)

Maryland: Very prevalent; 100 per cent infection in most fields. Most of the plants were infected late in the season. Estimated loss 5 per cent. (Norton & Jehle, Sept. 15)

Alabama: A few affected plants have been observed but apparently not spreading in the field. Unimportant. (Miles, Sept. 1)

Arkansas: Ninety per cent count made in some fields. Mottling very conspicuous on foliage but none observed on the fruit. (No observations since July 30). (Rosen, Sept. 15)

Ohio: These diseases are becoming more prevalent each year. Streak is showing in the field quite abundantly. (Young, Sept. 15)

Wisconsin: Less than usual. A few plants may be found in most commercial plantings. Losses slight. (Vaughan, Sept. 15)

Washington: A mottling supposed to be caused by mosaic is generally prevalent on tomatoes under glass and is responsible for some decrease in yield toward the end of the growing season. Strong feeding in the opinion of growers overcomes the trouble in a large measure. (Dept. Pl. Path., Sept. 1)

WESTERN YELLOW BLIGHT OF TOMATO

The Department of Plant Pathology of the Washington State College reports on September 1 that western blight of tomato is very generally prevalent and causing excessive loss. The disease appeared early in severe form and has probably cut the yield for the state about 75 per cent.

REPORTS ON OTHER TOMATO DISEASES FROM MARYLAND

J. B. S. Norton and R. A. Jehle of the Maryland Experiment Station have reported on Maryland tomato diseases as follows, under date of September 15.

Weather conditions. Unfavorable weather conditions greatly reduced set of fruit and together with the Macrosporium leafspot caused a 50 per cent loss in the state and in the southern Eastern Shore counties 75 per cent loss. The early summer was dry followed by extremes of heat. In August the weather was very hot followed by two weeks of rain.

Anthracnose (*Colletotrichum phomoides*). This disease is beginning to appear.

Buckeye rot (*Phytophthora terrestris*). Thirty per cent in one field in Prince Georges County.

Wilt (*Bacterium solanacearum*). Twenty-five per cent of plants in one field in Prince Georges County.

Early blight (*Alternaria solani*). Much more prevalent than usual. This disease in combination with weather conditions caused a loss of 80 to 90 per cent of the foliage during August. This disease practically replaced the usual Septoria leafspot.

Leafspot (Septoria lycopersici). Very much less than usual, probably due to dry weather during the early part of the season. To September 1 none observed south of Kent County. More observed in the northern and western part of the state than in the southern and eastern parts.

REPORTS ON DISEASES OF MARYLAND POTATOES

R. A. Jehle, of the University of Maryland, reports under date of September 15 as follows:

Mosaic (cause unknown). Few fields planted from native McCormick potato seed were found but 100 per cent mosaic was found in all such fields inspected. Many fields from seed grown in Maryland from Pennsylvania seed were grown. Fields from seed unrogued last year had 20 to 35 per cent mosaic. Fields from seed obtained from rogued fields last year had 7 to 15 per cent mosaic. Fields from Pennsylvania seed had 4 per cent mosaic last year. Not much mosaic was found in late Cobbler fields. The largest percentage found in Cobbler fields inspected for certification was 10 per cent.

Wilt (Bacterium solanacearum). A trace of bacterial wilt was found in several fields of Cobbler potatoes inspected for certification. In one field an area of about 1/16 acre located in a low portion of the field was entirely killed out and scattered plants in the adjacent area were becoming infected.

Streak (cause unknown). More than usual. A trace found in almost all Cobbler fields inspected. Largest amount found in any field 2 per cent.

Early blight (Alternaria solani). No more than a trace found in any inspected fields.

A SEVERE INFESTATION OF THE ROOT KNOT NEMATODE (CACONEMA RADICICOLA)

W. A. Archer, of the Plant Disease Survey, stationed in Missouri, reports a locality in Dunklin County in the extreme southeastern portion of the state, where nematodes are so bad that difficulty is experienced in growing many crops. Concerning this he writes:

"In Dunklin County there is a considerable area with soil known as Lintonia sandy loam. The entire area seems to be

badly infested with nematodes. In one locality practically every plant examined was severely infested. An acre of Elberta peaches had been killed by this same trouble. Apples had been planted repeatedly but most of them are killed or else remained stunted. Even garden growing is a serious problem."

GUMMY STEM BLIGHT OF WATERMELON (MYCOSPHAERELLA CITRULLINA)

Alabama: Observed for first time in state this year in Cullman, Blount, and Elmore Counties. (Miles, Sept. 13)

POWDERY MILDEW OF WATERMELON (ERYSIPHE CICHORACEARUM DC.)

Arizona: I have found mildew in practically all fields of watermelons for the past two weeks, but as long as the weather stayed dry there was little spread. Infection of watermelon vines is not severe. (Brisley, Sept. 11)

FURTHER REPORTS ON THE OCCURRENCE OF DIAPORTHE UMBRINA JENKS. ON ROSE

"During the present season the fungus causing brown canker of roses (Diaporthe umbrina Jenkins) has been observed by me on stems and leaves of Rosa setigera in three different localities, Trumansburg, New York, Pier Cove, Allegan County, Michigan, and Morgantown, West Virginia. At Morgantown the fungus was observed on a planting from which John L. Sheldon had formerly reported its occurrence under the name of Myxosporium rosae Fckl. (Plant Dis. Bul. Suppl. 29: 446. Aug. 1, 1925). Doctor Sheldonhas reported this disease of roses on various occasions since 1904.

"In February, 1925, this fungus was found on petals of roses of the variety Marie Van Houtte grown in the open in the vicinity of St. Petersburg, Florida. Four other specimens of this fungus have also been received from Florida as follows: Homestead and Sutherland, collected by G. F. Weber in March, 1924; Jacksonville, received through Conard and Pyle Co. 1925; and Brooksville, collected by Erdman West, April 27, 1926.

"The finding of the fungus in Michigan and Florida adds two states to the known distribution of this organism as given in the Plant Disease Reporter Suppl. 37: 408-409, 1925 and 42: 360, 1925." (Jenkins, Sept. 24)